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EXAMINER	
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 0304

Application Number: 10/047,527
Filing Date: October 23, 2001
Appellant(s): CHASSER ET AL.

Krisanne Shideler
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 30 January 2004.

It is noted that the examiner has entered the amendment after final, which adds a limitation from a dependent claim into the independent claim. The amendments render moot some rejections cited in the final rejection, including those based on 35 USC 112 and those based on 35 USC 102. The rejection cited in the present Examiner's Answer reflects the amended claims without adding new grounds of rejection, although the specific basis for rejection has been rearranged. As the Appellant has correctly pointed out, the claims are rejected under 35 USC 103 by Geary et al. as evidenced by Laver taken in view of Nakae et al. and also by Chasser et al. as evidenced by Laver taken in view of Nakae et al.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

As the appellant has correctly pointed out, the pending issues include

a. Whether the subject matter of claims 5-7, 9, 13-15, and 18 are obvious based on Geary et al. as evidenced by Laver taken in view of Nakae et al.

b. Whether the subject matter of claims 5-6, 13-15, and 18 are obvious based on Chasser et al. as evidenced by Laver taken in view of Nakae et al.

(7) Grouping of Claims

Appellant's brief includes a statement that claims 15 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8). Also, the appellant's brief includes a statement that claims 7 and 9 stand separately from claims 5-6, 13-14, and 18.

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

4,801,680	GEARY et al.	1-1989
6,069,221	CHASSER et al.	5-2000
5,719,212	NAKAE et al.	2-1998
6,103,794	LAVER	8-2000

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 5-7, 9, 13-15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geary et al. as evidenced by Laver and in view of Nakae et al.

Geary discloses thermosetting powder coating compositions comprising carboxylic acid-containing polyesters and beta-hydroxyalkylamide curing agents (col. 1 lines 34-39). Examples show bis-hydroxyethylamide compounds (example A) and carboxylic acid group-containing polyester polymers having M_n values of ~3500-4500. Example 1A suggests the combination of 72.4% by weight carboxylic acid-containing polyester, 4.3% by weight of a bis-hydroxyethylamide, and 1.5% by weight of Irganox® 1076. Laver provides the structure of Irganox® 1076, a phenolic compound having branched butyl groups in positions ortho to the hydroxy group. Example 2A shows the combination of carboxylic acid-containing polyester, carboxylic acid-containing acrylic

polymer, a bis-hydroxyethylamide, and Irganox® 1076, teaching the applicant's claimed acrylic polymer. Also, comparative examples show the combination of carboxylic acid-containing polyester, triglycidyl isocyanurate, and Irganox® 1076. The coatings are applied to metal substrates, including aluminum (col. 5 lines 36-38).

Geary and Laver apply as above, noting the use of carboxyl-functional acrylic polymers, beta-hydroxyalkylamide curing agents, and phenol antioxidants, but failing to mention the use of 2,6-di-tert-butyl-4-methyl-phenol. Nakae teaches powder coating compositions comprising reactive polymers, curing agents, and phenolic antioxidants, where certain phenol antioxidants, including 2,6-di-tert-butyl-4-methyl-phenol, are preferred because of their melting points (col. 3 lines 8-67). The reference teaches 2,6-di-tert-butyl-4-methyl-phenol as one of five preferred phenolic antioxidants, teaching the compound as equivalent to n-octadecyl-3-(3,5-di-t-butyl-4-hydroxyphenyl)propionate (Irganox 1076). Optimum melting points are chosen for improved blocking resistance and melt processibility. It is the examiner's position, therefore, that it would have been prima facie obvious to choose 2,6-di-tert-butyl-4-methyl-phenol as a phenolic antioxidant in Geary's invention to form coatings having equally improved blocking resistance and melt processibility.

The references apply as above, failing to exemplify the use of polymers having equivalent weights within 200-2,500. However, Geary notes that additional crystalline functional polyesters, having equivalent weights of 150-600, can be included to provide additional flexibility and/or impact resistance to the coating. It is the examiner's position that it would have been prima facie obvious to include functional polyesters having

equivalent weights of 150-600 in the inventive powder coating compositions of Geary and Nakae to provide flexibility and impact resistance to the resultant coatings.

Additionally, since the compositions of the combined invention contain all of the claimed composition components, it is the examiner's position that the inventive composition and claimed composition would inherently possess the same improved corrosion properties.

Claims 5-6, 13-15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chasser et al. as evidenced by Laver and in view of Nakae et al.

Chasser discloses curable powder coating compositions comprising polymers with functional groups and curing agents reactive with the polymers that are applied to aluminum substrates (abstract). The polymers are selected from carboxylic acid-containing polyesters having M_n values of preferably 2000-3000 (col. 3 lines 9-24), carboxylic acid-containing acrylic polymers (col. 3 lines 59-64), carboxylic acid-containing polyurethane polymers (col. 4 lines 25-27), and epoxy-functional polymers (col. 4 lines 60-62). Polymers are used in preferred amounts of 50-85% by weight (col. 5 lines 38-43). Curing agents include beta-hydroxyalkylamides and triglycidylisocyanurate (col. 5 lines 50-67). Irganox antioxidants are noted as suitable additives (col. 6 lines 36-44). Example A shows the combination of a carboxylic acid-functional polyester, 12.9% by weight triglycidylisocyanurate, and ~1% by weight Irganox® 1076. Laver provides the structure of Irganox® 1076, a phenolic compound having branched butyl groups in positions ortho to the hydroxy group. Example C

shows the combination of carboxylic acid-containing polyester, a beta-hydroxyalkylamide curing agent, and a phenolic UV stabilizer having substituents at ortho positions to the hydroxy group (Tinuvin 900).

Chasser and Laver apply as above, noting the use of reactive polymers, curing agents, and phenolic antioxidant compounds but failing to mention the use of 2,6-di-tert-butyl-4-methyl-phenol. Nakae teaches powder coating compositions comprising reactive polymers, curing agents, and phenolic antioxidants, where certain phenol antioxidants, including 2,6-di-tert-butyl-4-methyl-phenol, are preferred because of their melting points (col. 3 lines 8-67). The reference teaches 2,6-di-tert-butyl-4-methyl-phenol as one of five preferred phenolic antioxidants, teaching the compound as equivalent to n-octadecyl-3-(3,5-di-t-butyl-4-hydroxyphenyl)propionate (Irganox 1076). Optimum melting points are chosen for improved blocking resistance and melt processibility. It is the examiner's position, therefore, that it would have been prima facie obvious to choose 2,6-di-tert-butyl-4-methyl-phenol as a phenolic antioxidant in Chasser's invention to form coatings having equally improved blocking resistance and melt processibility.

Additionally, since the compositions of the invention contain all of the claimed composition components, it is the examiner's position that the inventive composition and claimed composition would inherently possess the same improved corrosion properties.

(11) Response to Argument

In response to the appellant's arguments that the references are not combinable because Nakae teaches different cure chemistries than either Geary or Chasser, it is noted that each of the references teach curable powder coatings comprising a binder, a curing agent, and a phenolic antioxidant additive. The additive is not reactive with the polymeric binder; thus, one skilled in the art would expect the antioxidant additive to work well in powder coating compositions in general.

Although the appellant argues that a list of over 50 antioxidants is provided in Nakae and so it would not be obvious to choose the specific claimed compound, it is noted that the primary references teach the use of phenolic antioxidant additives including Irganox 1076. Nakae provides a listing of five preferred phenolic antioxidants, including the claimed compound and a compound matching the formula for Irganox 1076. Thus, the compounds are taught as equally preferred phenolic compounds for improving blocking resistance and melt processing. It has been the examiner's position that it would have been prima facie obvious to choose the claimed compound from the limited list of equivalent phenolic antioxidants, since it is shown to have improved blocking resistance and melt processibility.

Regarding the appellant's argument that the combination of references would not teach the claimed invention, it is again noted that the primary references Geary and Chasser teach claimed components (a) and (b) combined with a phenolic antioxidant compound to form a coating. Substrates for the coatings in the references include aluminum. Nakae teaches the equivalence of the claimed compound with the

exemplified Irganox 1076 phenolic compound, where both exhibit improved melt and blocking properties. The use of the claimed compound in the coatings of the primary reference would result in the claimed coated substrates. The references are taken as a whole and are not combined only as far as overlapping subject matter allows.

In response to the appellant's argument that the references do not show the claimed improvement of filiform corrosion resistance, it is noted that the combined teaching would result in the claimed coating. It has been the examiner's position that the coatings of the combined teachings would inherently possess the claimed properties, since they teach the same composition.

Regarding the appellant's argument that Geary does not teach the claimed acrylic polymer of claim 15 since the reference only shows using a very minor amount, it is noted that the claim does not limit the amount of acrylic polymer present. Although the example may not show acrylic polymers as a major component, the example still teaches the use of such a carboxylic functional group-containing acrylic polymer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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Melanie Bissett
March 31, 2004

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